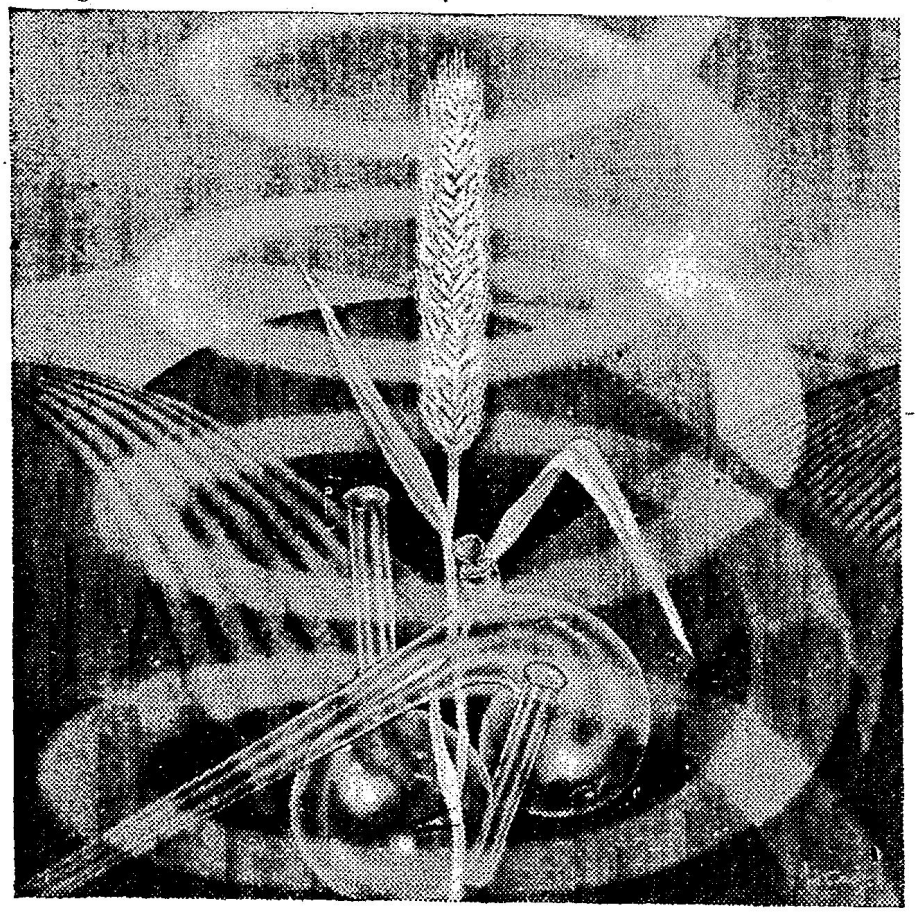

FERTILITY

AGRICULTURE today recognises that though fertility — the power of the land to produce abundant and healthy crops — is the result of many factors, it is inseparable from chemistry and the work of the research chemist. Fertility depends on light and air; on methods of cultivation; and on the presence in the soil of water; organic matter (humus); of bacteria; of nitrogen, potash, phosphates and calcium; and of small quantities of what are known as the minor elements. All these factors are inter-related so that all must be maintained at the right level if fertility is not to suffer. Nitrogen particularly is essential for all vigorous plant growth, and except for such special districts as the Fens, the soil of Britain is nitrogen-starved. It is important to note that nitrogen is released by the decomposition or disintegration of organic matter. In the past all sorts of methods were used to obtain it. It was extracted directly from waste products, or recovered in the form of sulphate of ammonia as a by-product of coal. Then came the great chemical discovery of how to combine the nitrogen released to the air with hydrogen from water to form ammonia. Nitrogen applied to the land as an inorganic fertilizer enables heavier crops to be grown, and therefore more vegetable matter to be ploughed back. Heavier crops make it possible to feed more stock, which means more dung. In other words the element released from organic matter is applied inorganically, but then passes back again to the soil through plant or beast as organic matter. The "fertilizer" of this season supplies more dung or humus next year. Fertility is a cycle in which the products and processes of Nature and the skill of the farmer are inseparable from chemical research and the products of the chemical industry.

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The Times (London, England), Friday, Apr 28, 1944; pg. 6; Issue 49842. (307 words)

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